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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/474,191	12/29/1999	TADAO MORISHITA	49376(868)	1975

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EXAMINER	
CHANG, JON CARLTON	
ART UNIT	**PAPER NUMBER**
2623	

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15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/474,191	Applicant(s) MORISHITA, TADAO	
	Examiner Jon Chang	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,3 and 5-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *3,5,6,8 and 9* is/are allowed.

6)☒ Claim(s) *2 and 7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 December 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Applicant's Arguments

1. The response filed, January 15, 2004, has been entered and made of record.

Applicant's arguments have been fully considered, but are not deemed to be persuasive for at least the following reasons.

On page 4, third paragraph, Applicant states, "Examiner's argument totally failed to acknowledge the fact that the database of the Koerich 1 reference also includes parameters and data that interact with the image data (no matter how that image data was created) in the computer so as to create a virtual 'template' as the reference image." The Examiner responds by pointing out that:

1) The Examiner has not denied that the database includes parameters and data. This is clearly shown in Fig.4 (page 2153), in the Database block. Note too, that the database includes images, obtained by the optical scanner, as well.

2) The Examiner does not agree that the parameters and data interact with the image data in the computer so as to create a virtual template as the reference image. The Examiner assumes by "reference image" Applicant means the stored image which is compared with the input image. Koerich 1's template is a mask derived from customer and bank parameter data. It is used to mask out (and thus extract) certain areas (fig.5), after comparison (note Fig.4, where the template is used on the output of the subtraction block. The templage is not a reference image.

On page 4, last paragraph, Applicant equates Koerich 1's template to a "reference image". The Examiner disagrees. As stated previously, Koerich 1's template (page 2153, Fig.4, Template Generation block) is used as a mask to extract certain

areas of the result of the comparison (Fig.4, "Filled Information Extraction" block; Fig.5). It itself is not used directly in the comparison (subtraction) process.

On page 5, second paragraph Applicant alleges that none of the references starts with a simple scan and stores a basic initial image. The Examiner disagrees. Koerich 1 scans, using an optical scanner, to store basic pattern images (page 2153, Fig.4, "Optical Scanner" and "Database" blocks).

On page 5, last paragraph, Applicant argues that Koerich 1's teaching "clearly is not the same thing as the present invention wherein **each** input image after the first is compared with **all** of the input images that have gone before it in the generation of a composite comparison output." (emphasis added). The Examiner responds by pointing out that this is not what is being claimed in claims 2 or 7. Therefore it is irrelevant as to whether Koerich 1 teaches this or not.

On page 6, second paragraph, Applicant makes the point that in Koerich 2, "the background removal is accomplished ***before*** the system initiates the steps of the template formation procedure and the removal of baselines and printed characters from the virtual image of the input check with its background removal." (Applicant's emphasis). The Examiner does not understand the relevancy of this argument to the Office Action or the claims.

On page 6, third paragraph, Applicant makes the argument that Koerich 1 does not disclose the output of the virtual image of the input check with its background removed. Applicant makes a similar argument in the last paragraph of page 6 ("The Examiner, however, fails to recognize that no actual output is provided for the virtual

result of the comparison of the stored background image with the input check image in either of the cited references."), and the first paragraph of page 7 ("Applicant respectfully submits...that it does not teach, disclose or suggest the invention of either Claim 2 or Claim 7 of the present invention (that specifically provides means for the output of the result of generated by the comparison means)..." The Examiner disagrees. Koerich 1 does output the image of the input image with its background removed. Note in Fig.4 (page 2153), the subtraction (i.e., the comparison) of the input image and the stored image from the database takes place in the block "Images Subtraction." The result of the subtraction (i.e., the input image minus the background image) is output to the "Filled Information Extraction" block. Therefore, Koerich 1 does disclose outputting the result of the comparison, as called for by the claims. The Examiner wishes to point out that the claim does not indicate to where the result is output, so the broad language of the claim reads on the Koerich 1 reference.

On page 6, third paragraph, Applicant argues Koerich 1 does not disclose the threshold limitation present in the comparison step. In response, the Examiner would like to point out that the last Office Action admitted that the threshold limitation was not disclosed by Koerich 1, but was taught by Koerich 2.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set

forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the article, "Automatic Extraction of Filled Information from Bankchecks" by Koerich et al. (hereinafter "Koerich 1"), in combination with the article, "A System for Automatic Extraction of the User-Entered Data from Bankchecks" by Koerich et al. (hereinafter "Koerich 2").

With regard to claim 2, Koerich 1 discloses an image processing apparatus (note the system in Fig.4, and reference to "machine understanding" in Section 2) comprising at least:

input means for carrying out a distribution process of image information inputted through an image input mechanism (Fig.4, "Optical Scanner");

storing means for storing an image inputted through the input means (Fig.4, "Database");

comparing means for comparing an image inputted through the input means with an image stored in the storing means (Fig.4, "Images Subtraction" of the input images and Background pattern images); and

output means for outputting a result of comparison by the comparing means (Fig.4, output of "Images Subtraction" block after "Position Adjustment" block, and subsequent blocks),

wherein the comparing means includes calculating means for calculating a difference in pixel values which represent pixel densities, between an image newly

inputted through the input means and an image stored in the storing means, and recognizing means for recognizing a portion common to the stored and newly input images (note in section 3.2 "Background Elimination" the apparatus calculates a difference between a position-adjusted newly inputted image, $I_{CD}(x,y)$, and a background pattern image, $I_{CB}(x,y)$, stored in the database).

Koerich 1 does not teach that the recognizing means compares an output of a calculating means with a preset threshold value. However, this is well known in the art as evidenced by Koerich 2. Note that Koerich 2 teaches calculating a difference in pixel values between an image inputted through an input means, and an image stored in a storing means. Koerich 2 further teaches recognizing a portion common to the stored and newly input images by comparing the difference to a preset threshold value (see section "Background Pattern Elimination," where a difference between a newly inputted image, $a_n(x,y)$, and a background pattern image, $b_n(x,y)$, stored in the database, is calculated, and compared to a threshold T). Koerich 2 states that this technique tolerates small differences between the two images involved in the background pattern elimination. This would yield improved results. Therefore, it would have been obvious to one of ordinary skill in the art to modify Koerich 1 according to Koerich 2.

Koerich 2 further teaches that the comparing means includes extracting means for causing the output means to output only pixels corresponding to pixels of the stored and newly input images respectively when the difference in pixel values calculated by the calculating means is equal to or less than the threshold value (note in section "Background Pattern Elimination" the equation for $c_n(x,y)$ indicates that when the

difference is less than or equal to the threshold value T, $c_n(x,y)$ takes on a value of 1 (i.e., a pixel is output), otherwise, the $c_n(x,y)$ takes on a value of 0 (i.e., no pixel is output)).

With regard to claim 7, Koerich 2 discloses a setting means for allowing a user to set the threshold value (this is inherent. Note in the next to last sentence of the section "Background Pattern Elimination" the reference indicates that T was chosen to be 20. This provides evidence that T is settable by a user, and therefore the system must have some means for allowing T to be set.).

Allowable Subject Matter

4. Claims 3, 5-6, 8-9 are allowed.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Chang whose telephone number is (703)305-8439. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703)308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jon Chang
Primary Examiner
Art Unit 2623

Jon Chang
April 5, 2004